AMERICAN VETERINARY REVIEW,

NOVEMBER, 1885.

EDITORIAL.

THE AMERICAN VETERINARY REVIEW PRIZE.

We desire to call the attention of our friends in the profession to our offer of a premium of a GOLD MEDAL, valued at FIFTY DOLLARS, for the most excellent of the essays offered for publication in the REVIEW, and which must be understood to be quite independent of the prize offered by the United States Veterinary Medical Association, and additional to that or any other similar proposition.

We repeat the terms and method of the contest:

Each essay is to be enclosed in a sealed envelope, on which some distinguishing motto, selected by the author, is to be inscribed. This must be accompanied by a second envelope, securely sealed, inscribed in duplicate with the same motto, and enclosing a card containing the name and address of the writer. The name of the successful essayist will be ascertained, after publication, by a majority vote of the members of the Association, voting upon the distinguishing mottoes, and only after the question has been irrevocably determined will the envelope be opened in which the name of the successful essayist has been deposited.

Each member of the profession, in and out of the Association, subscriber or not subscriber of the Review, is entitled to compete.

DR. A. JACOBI ON THE RECOGNITION OF THE VETERINARY PROFESSION.

In the October REVIEW we ventured an inquiry as to what would probably be the reception which might be anticipated from American practitioners of human medicine to such of their European brethren in the veterinary branch of the science as might venture to cross the ocean to attend the contemplated international veterinary congress.

Our inquiry was prompted by our knowledge of the fact that medical bodies in this country decline to admit veterinarians, as such, to their membership; that if any veterinarians, being also physicians, are received into their fellowship, it is alone in virtue of their being practitioners in the department of human medicine; and that even individuals of this class, are, because of their dual qualifications, refused recognition by the New York Academy of Medicine, the most eminent of the medical institutions of our State, a clause of the by-laws of the Academy making the practice of human medicine obligatory upon its members.

If we have not fallen into an error of which we are quite unconscious, our inquiry is lacking in neither propriety or pertinency, and the learned President of the Academy of Medicine, Professor A. Jacobi, in his address to that body, has gone far towards furnishing an answer to our query, in giving expression to his views in relation to certain changes which he advocates in the rules which refer to the admission of members and the objects which should be contemplated as involved in the consideration of the qualifications of candidates.

No one acquainted with Dr. Jacobi will be surprised at his words. His fairly won reputation, his impartial spirit, his devotion to the cause of true progress, his desire for information wherever to be obtained, all have placed him in the foremost rank in his profession. Veterinarians will therefore gladly accept his utterances before the Academy when he says: * * * "*Disease is many-sided, and we wish to include in our organization those who see it from every side* * * * *all, therefore, whether hospital physicians, family and school attendants,* SPECIALISTS, *medical*

*officers, * * will be asked to contribute their quota of observation to the common fund."—(N. Y. Med. Journal.)*

It is true that veterinarians by name do not appear in these sentences, but if we are not "specialists," and if we are not amongst those who are accustomed to view and to study disease "from every side," how shall we be described?

We fully believe that Dr. Jacobi in this address has had but one object in view, and this is to fill the ranks of the institution over which he presides with the material which will supply the need which is peculiar to similar institutions in this country. For while in every similar institution in Europe, as in this country, the various branches of medicine are represented by "sections," such as those of pathology, therapeutics, obstetrics, surgery, etc., always ready for the reference of subjects cognate and pertinent, we have to regret the lack of that section which is considered to be so important in Europe; a section which from time to time has presented many valuable documents, full of important facts and discoveries, and which includes men of the highest culture and standing in their specialty—we mean the specialty of veterinary medicine.

This section does not now exist in the New York Academy of Medicine, but we have a conviction that Dr. Jacobi designs to take active steps for its formation, which after all cannot be so difficult of accomplishment. We cannot anticipate that every veterinarian will become a member of the Academy, and we seriously doubt whether they would all prove to be fit persons for such an association. But we do believe that we have in this State a few who would by no means be out of place among the members of the Academy, and that in their respective callings they might contribute largely to the good work accomplished by this great medical body.

VETERINARIANS AND THE CONVENTION OF CATTLE GROWERS OF THE UNITED STATES.

The report presented through the Committee on Diseases to the United States Veterinary Medical Association was, like the others, simply "ordered to be published," and whether it was

noticed or not, will certainly not have the result that was anticipated by its author, Dr. Hopkins, State Veterinarian of Wyoming.

This gentleman has, for several years, made a special study of sanitary medicine in general, and principally in connection with such of the diseases of animals as may be liable to spread in our Western States. The suggestions contained in his report; the recommendations he called for in the appointment of a committee to act with the next National Convention of the Cattle Growers of the United States; the arguments which he urged in proof of the benefits which would accrue to veterinarians in general, from taking an active part in the proceedings of the convention—indeed, the report, in whole and in part, is too valuable a document to be ignored and entombed as it has been.

But Dr. Hopkins is not the man to surrender an idea or abandon an enterprize which interests him and to which he is in any wise committed, especially when the credit of the profession of his choice is at stake. He has favored us with a copy of a circular which he has addressed to all the State and General Government Veterinarians, and it is with pleasure that we herein present it to our readers. The call is made to State Veterinarians and Sanitary Boards, but is, no doubt, also addressed to all veterinary surgeons interested in sanitary medicine.

This convention of cattle growers will no doubt be composed largely of men ready to listen to the suggestions that may come from veterinarians, and we hope to learn that the call has met with a wide response. The object of the meeting will certainly prove interesting to all, and the current discussions that must take place cannot prove other than interesting and beneficial to our entire community.

VETERINARY EDUCATION IN AMERICA.

The important question of veterinary education in America is assuming a new phase. By a letter addressed to us, and which is published in the present issue, our readers will perceive that some of our friends have begun to understand the necessity for some changes in the management of the veterinary colleges of this

country, and to feel an interest in the matter of the proper quality of the practical education to be acquired by the utudents. Though the letter was addressed to us as Dean of the Faculty of one of the colleges, we have thought that it might be expedient, before giving expression to our own views in reply, to start an inquiry through the REVIEW as to the general opinion of the members of the profession upon the points involved. The three questions presented are important, and while the first and second principally concern the faculties of the veterinary colleges, the third is more certainly deserving of attention from ordinary practitioners. The question of pupilage has given rise to considerable discussion in England, and probably will not be decided on this continent without eliciting more. The pages of the REVIEW are thrown open to our friends for an expression of their opinion in this, as in other questions. At a later date we shall present our own thoughts, which we may say in the meantime are, with little variation, consonant with the suggestions made by our friends from the Ohio State Veterinary Medical Association.

DR. HOPKINS' LETTER.

We call the attention of our readers, and especially those who belong to the United States Veterinary Medical Association, to the letter that we have received from Dr. Hopkins, Territorial Veterinarian of Wyoming Territory. Written in his peculiar style, it expresses, no doubt, the feeling that many must have had when his report to the Committee on Diseases, and the excellent suggestions it contained, received so little attention at the September meeting of the Association. Perhaps, in thinking of this letter, the present officers of that honorable body will appreciate the need of a new departure in the workings of the Association.

CHEYENNE, Oct. 16th, 1885.

A. LIAUTARD, M.D., V.S., New York.

My Dear Doctor:—Yours of the 3d, also the REVIEW, are at hand. I am deeply mortified at the apathy displayed by the Association at the last annual meeting, as well as the lack of interest of veterinarians, in regard to the advancement of the profession, especially at this time, when the whole country is becoming sensible of the necessity of wholesome sanitary laws and their enforcement for

the protection of domestic animals. Never in the history of our profession has a time occurred in this country, when the services of veterinarians, experts in sanitary science, were more in demand, and relied on by the State authorities and the people, for sound scientific knowledge, to protect the prosperity of the nation, by demonstrating methods for controlling contagions diseases and preventing fresh invasions of the plagues which at present afflict the domestic animals of many parts of our country, and render the calling of agriculturists exceedingly precarious.

As an evidence of the appreciation of our branch of the medical profession, observe the haste with which agricultural colleges are adding veterinary science to their curriculum, in their efforts to keep their schools popular and supply a public necessity, in the person of a graduate (?) in veterinary and sanitary science.

It is a matter of sincere regret, and a great disparagement to a noble profession, that agricultural colleges should so belittle themselves and slander science, as to imagine, let alone attempt to educate young men in a branch of medicine so important, without having every facility for a thorough course in medicine and surgery, together with the practical training *absolutely necessary* in veterinary and sanitary science: the result will be that our country will be flooded with a most dangerous class of empirics, and the name of veterinarian become odious in public estimation.

If the Government would fix a standard of graduation in the veterinarian, or, better still, take entire supervision of veterinary schools through the appointment of a Board of Censors, whose duty would be to supervise such examinations and fix a standard of requirements necessary to graduate; then a veterinarian holding a diploma would be entitled to some honor, and the public assured of his ability.

I had entertained hopes that the United States Veterinary Medical Association at its last annual meeting held in New York would have considered this subject, as well as the spread of contagious diseases among the domestic animals in different States; a subject which during the past two years has occupied the attention of Congress and the Legislatures of many States. This subject has also been the engrossing topic of all agricultural and stock growers' societies, and has been freely handled by the "press," until almost every stockman of average intelligence is completely nonplussed by the conflicting opinions advanced. Hence, you can imagine my surprise to know that the Association supposed to be the head centre of the veterinary profession, and composed of gentlemen of acknowledged ability, had at great trouble and expense, met, elected new officers and adjourned, without reference to any question whereby the profession might have been benefitted, or the public served through a discussion of the sanitary condition of its domestic animals.

By its utter apathy, the twenty-third annual meeting of the Association has failed to grasp a great opportunity to forward the interests of the profession by demonstrating to the public, through the conventions of cattle growers about being held in Chicago and St. Louis, their views concerning the spread of contagion among domestic animals; the best methods of controlling plagues and their eradication; the people's right to indemnity for animals slaughtered to prevent the spread of contagion; the necessity of State legislation, and its peculiarities as relating to inter-state commerce and quarantine; also the quarantine of all cattle arriving from foreign countries, disinfection of ships, etc.

Had the Association considered the questions and given expression to their conclusions, then the hands of the few veterinarians engaged in official work would have strengthened, and the public enlightened as to the exact status of the different plagues which afflict our domestic animals; while the mercenary individuals and corrupt legislation would have received a check in their endeavors to make political capital or create places for partisans, at the expense of a suffering public and in defiance of all laws of sanitary science.

Very respectfully, JAS. D. HOPKINS.

ORIGINAL ARTICLES.

DISEASES OF THE HEART IN DOMESTIC ANIMALS, ESPECIALLY THE HORSE.

BY FR. BLAZEKOVIC.
(*Translated by J. C. Meyer, Sr., V.S.*)

Continued from page 259.

III. ANATOMICAL DISTURBANCES—PATHOLOGICAL ANATOMY.

It is a well known fact. that at a post-mortem examination many sided anatomical disturbances and pathological changes of the heart and pericardium are found, where during life, heart diseases had scarcely been suspected. The post-mortem examination reveals that the change found in the heart had been the most important factor in the calling forth of the fatal disease.

In the following we shall discuss all such pathological anatomical changes as they are found upon the cadaver, be these diagnosticated during life or be they known for the first time at the post-mortem examination.

In the first place, it is important that we divide the collective changes of the heart into two categories, namely: The innate and the acquired abnormities. We cannot always determine positively whether the existing changes be innate or acquired, for in the innate abnormities, however slight, the germ for the development of this mortal affection slumbers; still I hold this division necessary for better understanding.

(A) *Innate Defects of the Heart.*—The innate defects of the heart are not as rare as is generally believed; however their diagnosis, even on the cadaver, is uncommonly difficult, for as a rule, it is found that a number of pathological processes and

changes in the heart are developed as attendants of the already existing anomalies, making the discovery of the primary innate abnormity exceedingly difficult; indeed, scarcely possible. The most striking feature of the innate anomalies of the heart is the change of position. This condition of things makes it useless to attempt to prove by the faulty position of the heart the time of the origin, as has been tried upon the human being. This remains a task for the embryologist.

Of the innate defects of the heart, the imperfect positions strike the examiner most frequently, but these also are often overlooked in practice. Taking for granted that the normal position of the heart is known, we shall bring forth some important moments: The connection of the heart with the lung forms in the first place, a region where abnormities can occur, then the approximation of the apex of the heart to the thoracic walls.

The position of the anomalies are to be divided as follows:

(a) *Defective Position within the Cavity of the Chest.*—Growing together of the heart with the lung or diaphragm, cleaving of the pericardium, partial bursting and then growing together of the diaphragm, defective attachment to the walls of the vessels and the principal primary vessels, causing a shriveling of the heart, hence a change of space at the base and apex; a too deep position and envelopment of the lungs, producing a defective freedom of action; finally, a dislocation of the whole heart, as the result of growing together.

(b) *Defective Position of the Heart without the Cavity of the Chest.*—According to the views of Prof. Caroli,* it is mostly a laceration of the diaphragm originating from the early stage of the embryo, which admits a displacement either of the organs of the abdomen, or the organs of the heart into the abdomen, thus a sort of prolapse actually occurs. Animals with such prolapses can live a long time. Prof. Ceddi-Bologna describes a case of ectopia of one lobe of the liver in the pericardium of a mule which was destroyed in its twelfth year for anatomical purposes. I myself observed in a two-day-old filly, the position outside the

Gazette Medico Veterinaria; Milano, 1875.

cavity of the chest, wherein the apex of the heart projected through an opening in the diaphragm.

Defective form of the heart, without other established changes, is also an innate abnormity. In such cases the heart appears cylindrical, conical and blunted.

It is much more difficult to trace the innate defects in the interior of the heart, and however insignificant they appear, they still have an eminent influence upon the whole circulation of the blood. The following abnormal orifices in the ventricle of the heart, namely: Defective retention of the arterial orifices, imperfect closing of their orifices, imperfection in the position of the auricle and ventricle, insufficiency of the valves, thickening of the same, expansion and contraction of the orifices, total closing or opening of the aorta, entire lack of, or mere rudimentary existing valves, growing together of the same or their edges, callous changes and fatty degeneration of the muscle, are to be regarded as such defective cessation and division of the great vessels. Fœtal myocarditis aud fœtal cyanose may be mentioned under this head.

(B) *Pathological Anatomy of Acquired Diseases of the Heart.*—The changes found in the heart and pericardium at a post-mortem examination are of various kinds, and is evidence of previously existing serious heart diseases, which were often overlooked during life time. The frequent accounts relating to the changes of the heart, in the yearly clinical reports, show that they are not rare occurrences. A post-mortem examination of an existing abnormity in one or another part of the heart affords an opportunity of acquiring knowledge, not only of the direction and course of the disease, but also of the possible existing complications. The post-mortem examination will also inform us that the consecutive diseases, such as diseases of the liver, spleen, kindey, etc., if not exclusively, certainly in the majority of cases, are not the cause of the heart diseases, but mostly the result of heart affection. However, it shall not be asserted that diseases of the above mentioned organs cannot generate diseases of the heart.

It is as necessary at a post mortem examination as at the diagnosis of a living animal, to determine certain limits in which the existing disease developes and which parts of the heart are

considered diseased. It is often very difficult to pronounce a precise separation of the diseased changes as the diagnosis de mands. Notwithstanding the diagnosis specifies a certain part of the heart as being diseased, it is perceptible that the changes have spread beyond the part and taken possession of the whole or greater part of the heart. It is different when the processes in the heart have about run their course. There we shall find the diseased changes at the particular parts diagnosticated, though traces are always visible of expanded processes which receded to such an extent that the heart could still perform its functions. In chronic diseases, as in other cases, the slow but steady growth of the disease always appears. To ascertain more definitely such changes of the heart, a special classification is dsirable.

(C) *Changes of the Muscular Substance.*—Anæmie and hyperamie are often found in the muscle of the heart; the former usually as the result of chronic imperfect nutrition, for instance, in atrophy of the heart, neoplasm, a ossification of coronary artery; the latter, in the production of acute processes, chiefly inflammation of the heart, in various consecutive diseases, in a few constitutional diseases, which appear with violent attacks and pressure of blood to the lungs and heart (anthrax and influenza), lastly, in suffocation, disturbances of the circulation and diseases of the vessels of any kind.

Anæmie is known by a conspicuous pallor of the muscle of the heart; on the other hand, hyperamie is known by a striking dark color and redness, and by a greater abundance of blood in the smaller vessels; in constitutional diseases often accompanied by ecchymosis.

Effusion of blood in the heart, with smaller or greater deposits, occurs, particularly in such diseases, during whose course violent and energetic contractions of the heart are present, as influenza, anthrax, severe colic, pericarditis, endocarditis and inflammation of the lungs. As a rule, an effusion of blood is accompanied by intense degeneration of the muscle of the heart. Another condition we designate inflammation of the muscle of the heart.

(*To be continued.*)

INFLUENZA AND THE INFECTIOUS DISEASES OF THE HORSE.

By Prof. Dieckerhoff.

Continued from page 263.

EPHEMERAL BRONCHO-PNEUMONIA OF THE HORSE.

In Brustseuche, it is often observed that the fever suddenly stops and that the local symptoms remain without increase. This peculiar process, called abortive, is also observed in the croupal-pneumonia of man. The precise conditions of this mode of termination are little known; some attributing it to the diminished intensity of the action of the infectious germ, while others pretend that it is due to the temperament or to the predisposition of the subjects. Old authors say that, in the abortive form of the croupal-pneumonia of man, the reduction of the temperature is not observed in odd days; modern writers, on the contrary, have observed that the period of decline may show itself at any time. "As to the period of incubation, it is as variable as the duration of the disease itself, and there are pneumonic attacks which last only from twenty-four to thirty-six hours," (Furgensen, Seitz.)

In brustseuche the inflammatory process in the lung may also cease every day, and the temperature subside in the space of twenty-four to thirty-six hours, from 40.3° to normal heat.

In the course of some epizootics, horses have been treated which were suffering with unilateral pneumonia, characterized by the general dullness, acceleration of respiration and circulation, elevation of temperature, etc. It often occurred that after two days the fever subsided, and with it all the accessory symptoms disappeared after a few days.

In 1884 Professor Dieckerhoff had an opportunity of studying an infectious pneumonia, closely resembling brustseuche, in which the fever never lasted more than a single day. He called it "pneumonia ephemera febrilis equorum," and reported the following cases in four horses, which in 1881 had suffered with pferdestaupe:

1st. On the 5th of September a well-bred horse, nine years old, refused to eat. He was dull, depressed and tired. Mustard frictions were immediately applied on the sides of the chest. The next day he presented the following symptoms: General sensibility; depression; general stiffness of the extremities; yellowish–red mucous membranes; dry mouth; pulsations, 48; respirations, 18 per minute; temperature, 39.9°; auscultation showed a diminution of the respiratory murmur in the lower third of the left lung. Brustseuche, under the form of pneumonia, was diagnosticated, and the patient received 100 grammes of bicarbonate of soda, 300 grammes of sulphate of soda, and an electuary of 60 grammes of gentian root.

The next day all the symptoms had diminished in intensity, and on the 8th of September the respiratory murmur had returned to its normal condition all over the lung.

2nd. September 14th a mare was taken with general symptoms similar to those of the former case. By auscultation and percussion nothing abnormal was observed. The throat was tender, and a short repeated cough was present. She received nothing but grass up to the 16th, when she seemed entirely recovered.

Two horses kept in the same stable exhibited similar symptoms, and hygienic cures were found sufficient to bring them back to a healthy condition in two days.

A similar affection made its appearance in two other stables, in animals which had previously been attacked with pferdestaude or brustseuche. The same general symptoms appeared in each case, but the accessory varied with the patients, and both disappeared after from twenty-four to forty-eight hours.

As before stated, the abortive form of the disease exists equally in the brustseuche of the horse as in the croupal-pneumonia of man. It does not, however, seem quite rational to absolutely compare ephemeral pneumonia with brustseuche, because the first always assumes a very benign form, and very frequently presents itself in animals which have already suffered by the second.

Some years ago, Dieckerhoff described another form of tem-

porary disease in the horse, under the name of "febricula," or "febris irritativa."

As with ephemeral pneumonia, this new affection was contagious in its nature, and seemed to propagate itself by the absorption of an unknown miasma. It may be possible that the germs of brustseuche, by successive modification, may lose a portion of their pathogenic activity, and give rise to other infectious diseases, much less dangerous.

SCALMA.

Besides brustseuche and pferdestaupe, influenza comprehends another form of infectious disease in horses, whose mode of origin and progress or march presents peculiar characters. This disease does not affect, in a given time, all the horses of a country, as pferdestaupe, nor those of a given locality, as brustseuche. It shows iteslf in one stable, then in another, more or less remote, where special conditions for its development exist.

To this day this disease, as with many others, has been known in Germany as influenza. Considering its march and its pathognomonic symptoms, Dieckerhoff proposes to call it "scalma."

In the Middle Ages, "scalma," (from an old word scalmo or scelmo) meant a series of very serious and insidious affections of domestic animals. Thus in the eighteenth century, an animal was said to have died of yellow schelm, when at the post-mortem yellowish liquids were found infiltrated in the various regions of the body; in other words, when the animal had succumbed to some carbuncular disease.

Hippiatic Kuffus, in 1250, said that a horse was *scalmatus* when, after recovering from a very serious disease, he was reduced to an extremely lean condition.

In the fourteenth century, Laurentius Kusius named the same disease scalmatura, a name kept up in Italian veterinary medicine up to the last century.

The word scalma (equorum) has no special signification, it is true, not being like other names, taken from the necroscopical lesions found on the autopsy of animals, or from the causes, imperfectly known, which give rise to it.

When the nutrition of an organ has been deeply altered, it is said, resting on the anatomical alteration, that it has become the seat of "inflammation." But the word inflammation, or even the determination of the various degrees of the inflammatory process, will not indicate the real seriousness of the disease with which the animal is affected. Thus, the expressions pneumonia and pleurisy designate diseases of the lungs and of the pleura, some of which are benign, while others are fatal.

The danger to which the life of an animal is exposed is less inherent in the local inflammation than in the dyscrasia of the blood, or in the disturbances of the functions of the heart, and of nutrition.

Distempers, glanders, heaves, and many other diseases of horses have received their name from symptoms observed by the first authors. To-day these affections are well known, and these same symptoms, only recognized at first, have become accessory, if they are not ignored. Consequently it is not indispensable to give to every disease a name taken from the symptoms which characterize it, or by the necroscopic lesions found at the post-mortems of those that have died.

(*To be continued.*)

FOOT AND MOUTH DISEASE AND ITS MICROBE.

INOCULATION WITH LIQUID OF CULTURE.—ATTENUATION OF THE VIRUS.*

By Dr. Innocente Nosotti.

The initiative of the researches made on this disease belongs to the Agricole Committee of Pavia, who, alarmed by the frequent outbreaks of that epizootic in Italy, had established a commission to study its progress and nature. Dr. Nosotti belonged to that commission, and reported the result of the investigations.

*Extracted from Researches upon the Origin and Nature of Aphtous Fever and the Means of Preventing it by Inoculation.—(*Clinica Veterinaria.*)

In a first report the commission had concluded that:

1st. The microscopic examination of the aphtous liquid obtained directly from a vesicle still intact, brought out the discovery of epidermic cells, some blood corpuscles, and numerous microbes, similar to those already discovered by Prof. Rivolta, which are alone the cause of the virulency of foot and mouth disease, and which ought to be called *micrococcus aphtosus*.

2d. Cultures of this micro-organism have been made successfully.

3d. A great extension ought to be given to the system of inoculation as already practised by many, from Buniva down to Rossignol.

4th. Sub-cutaneous inoculations, made either with pure virus or with virus diluted in the aquous humor of the eye, have for their result to diminish the strength of the disease.

These conclusions being presented, Dr. Nosotti states that the study of this *micrococcus aphtosus* has been made by others and by himself, and that these studies have proved that the virus of aphta is cultivatable, and probably can thus be attenuated in its effects.

While studying the nature of the virus, Dr. N. made numerous experiments in inoculation as above stated. These were all made under the skin of the dewlap, and they were followed by a benign attack of the disease, with the appearance of aphtous vesicles preceded by slight fever. These vesicles appeared on the buccal mucous membrane, were smaller than in the ordinary form, and cicatrized generally by simple resorption; but when they ulcerated, the recovery began as soon as the skin was ruptured. It was also observed that the skin of the region where the inoculation had been made became the seat of an inflammation of phlegmonous nature, which was soon covered by numerous little aphta.

Six months later the same commission published a second report, describing the experiments of inoculation made in various localities. The virus then used was diluted in aquous humor, and was pushed in the dewlap with a syringe of Provaz. It was hoped that by this process the affection would be localized in the

region of the dewlap and its development in its ordinary place of selection would be prevented. At first these results were obtained, but a few failures brought on a discussion between the members of the commission and Dr. Nosotti, and it is for this reason that the author published the report as merely the result of a few experiments made by him; definitive results have not yet been reached.

In order to prosecute his investigations successfully, Dr. Nosotti took all the precautions possible, providing himself with the best instruments and familiarizing himself with all that has been written on the subject of micro-organism. He first learned that the existence of the microbe of epizootic aphta had been discovered long ago, thus: Haindinger claimed that he had found in all the vesicles a kind of fungi which was the original of the fungi of rusty plants; Betti claims that this is the *oidium albicans* or *mucor albicanus* of the muguet of children or young calves; Bender found in the envelop of aphta small fungi, very small spores, and also numerous microbs; Bollinger found in these vesicles bacteridies and bacilli ; and Rivolta, more careful than the others, says that the aphtous virus is composed of round microbs of very small size, the largest having a kind of central nucleus. All these observers, as Nosotti remarks, had examined impure vesicles, that is one mixed with detritus of all kinds, which soil the mouth, the udders or the interdigital space, and consequently the number of parasites which they found was not to be counted; consequently their researches could not be correct.

By avoiding their errors, Dr. N. obtained the virus from recently formed vesicles, and took it with a syringe of Pravaz, previously carefully disinfected. The liquid obtained by this method like serum, had a slightly citrine color, was viscous, had an alkaline reaction and a fresh, not unpleasant *sui generis* odor. Left in a glass tube, it becomes transformed into a mass resembling coagulated albumin, and when the glass is agitated, the liquid disappears entirely.

Comparing it with the virus taken from an old vesicle, this is found to be of a dirty white color, cloudy, with an acid reaction, with a strong and disagreeable odor. It contains impurities and

detritus, which collects at the bottom of the glass, and does not disappear when it is agitated.

Seen under a microscope, the pure liquid is found to be composed of epidermic cells, red corpuscles, white corpuscles, fat cells, protoplasmatic granulations, and numerous vibrios *micrococci*, with well marked browmian motions.

In the old virus, besides all the above, Dr. N. found numerous purulent cells, cellular organic detritus, rudimentary forms of *bacterium termo* or bacillus of putrefaction.

In using coloring tests, such as fuschine, violet of gentian, etc., Dr. N. observed that the morphological elements become more apparent and that numerous microbs could be detected, which were those of epizootic aphta. Their diameter is very small; at first sight they resemble those of chicken cholera, discovered by Pasteur. but differ from them in some points, mentioned later on.

Perfectly round, strongly reflecting light in their center, their outlines are well defined. They are generally single, seldom grouped by two, three or four, never in chapulet form. With very high power, by close observation the various steps of reproduction can be seen. Some of them have a kind of granulation which becomes more and more apparent as it grows to the dimensions of the microbe from which it arises. This microbe with granulation then assumes an elongated shape; then between the granulations and the primitive microbe, a contraction or fissure and the body assumes the shape of figure 8, which is in fact, two microbes united together by a thin membrane which soon breaks up very readily by the simple motion of the fluid. These microbes are also seen in the epidermic cells and the leucocytes.

To be certain of the parasitic nature of these microbes, Dr. N. treated them with acids, alkali, ether and iodoform. But these actions, instead of causing their disappearance, intensified their appearance, though they seem to have lost some of their energy. Mixed with the bacterides of putrefaction, they seem to experience no effect from it, and even their multiplication proceeds with scarcely any interference. They disappear only when the bacterides of putrefaction are very abundant.

Placed in proper media, the microbe of foot and mouth disease

multiples prodigiously; its vitality is so tenacious that it multiplies also, though but slowly, when exposed to free atmospheric air.

In order to demonstrate that aphtous virus is truly the virulent agent of foot and mouth disease, numerous cultures in appropriate liquids have been made in Italy, but principally on a large scale in the laboratory of Dr. Nosotti.

From the numerous obervations he has made, he believes himself justified in affirming: *that the microbes observed first by Prof. Rivolta, and better studied and for the first time cultivated by himself, represent the true point of origin of the disease of epizootic aphta, the essence and nature of the aphtous virus.*

To confirm the virulency of his cultivation, Dr. N. has inoculated adult animals and has succeeded in producing with them a benign aphtous fever.

After reporting a few experiments, probably too few to justify a thorough conclusion, Dr. N. concludes his report by declaring:

1st. That epizootic aphta is not a disease susceptible of developing itself spontaneously. It is not an indigenous, but an exotic disease.

2d. Its nature is eminently contagious.

3d. Its virulent element is represented by microbes, discovered first by Rivolta.

4th. The virus can be cultivated when placed in appropriate media, and by successive cultures reducing its virulency, it may become a safe and proper agent of inoculation.

IMMUNITY FROM CONTAGIOUS DISEASES.*

By D. E. Salmon, D.V.M., Washington, D. C.

Although the theory of immunity which I formulated several years ago has been given a prominent place in recent discussions, it was not my intention to take any part in this philosophizing so long as my views were treated with ordinary consideration and fairness. This theory was not developed as a mere piece of speculation to while away an idle hour, nor was its object to excite

*From the *N. Y. Medical Journal.*

discussion or controversy. In the course of a long series of original investigations, in which very important facts were discovered, I was brought face to face with this question of immunity, and, in order to continue the investigations intelligently, it became necessary to have a working hypothesis which explained and connected the facts so far as known. The theory of immunity in question was the result of that necessity. It was a sincere endeavor to get at the truth with the facts at hand, and I only desire that it shall stand or fall on its merits. The tendency of working scientists has certainly been very favorable to it; no facts have been brought forward through more recent researches which oppose it, while many strongly confirm it. It does not appear to be so fortunate, however, when it comes in contact with the arguments of those who discard the facts bearing most directly on the subject, and reason from questionable premises and comparisons of doubtful application. A notable example of this may be seen in the article of Dr. J. Romaine Curtiss which appears in the issue of the *Journal* for July 18th.

Dr. Curtiss scores his first point by reversing the terms of my theory—a rather remarkable piece of carelessness when we find him stating it correctly in a quotation from Dr. Eccles, only a few sentences farther on: "The oxygen theory of Dr. Salmon," he says, "is too narrow a conception for the occasion, and there are no verifications to sustain it. Who can imagine that tubercle bacilli in the lungs can consume the oxygen inhaled so rapidly that there is not a sufficient supply for the lungs? The inhalation of oxygen is found to do harm in consumption as well as many other diseases. If Dr. Salmon's hypothesis is true, the inhalation of oxygen ought not only to cure, but prevent all diseases of zymotic origin." Skipping only one sentence, we come to Dr. Eccles' very clear statement of my theory in these words: "The poison of the microbes intoxicates the cells. Retarded function (of the cells) allows oxygen to increase in the circulation, thus facilitating their gaining a foothold. Recovery is due to the ability of the cells to resist the poison, use up their own oxygen, and so asphyxiate the microbes."

That is to say, of these two contending parties it is not the

microbes but the cells which injure their antagonists by exhausting the oxygen supply. Consequently, an artificial increase of the oxygen supply in the tissues would simply give the microbes a better chance in their struggle for existence. The theory here is in accordance with the clinical fact stated by Dr. Curtiss, and is not opposed to it, as he would have us believe.

The next objection is that "Dr. Salmon has not made an estimate relating to the ventilation of the human body with oxygen and the relative amount consumed by the microbes and cells." Here again Dr. Curtiss reasons from a false premise. The most careful chemical investigations show that the liquids of the interior of the body contain either no free oxygen or only a trace of it. The cells of the body which obtain their oxygen from these liquids are, therefore, able to exist and perform their functions with this limited supply of oxygen. In other words, the living protoplasm seems to have such a chemical affinity for this gas that surrounding liquids are kept practically exhausted. The very recent investigations of Ehlich ("Das Sauerstoff-Bedürfniss des Organismus"), made by a new method, and apparently incontestable in their results, confirm this view and place this part of the theory upon a foundation which a wise man will not attack without mature deliberation. Equally careful studies of microbes show that their oxygen requirements are very different, and that some of them require relatively large quantities of free oxygen in order to multiply at all. So far, then, as investigations have gone in this direction, the facts discovered are in accord with my theory of immunity.

The comparison between a combat in which a dog attempts to kill and eat a man in a well-ventilated room and the contest of the microbe and the animal cell in the interior of the body, which Dr. Curtiss next introduces, is one of the most remarkable arguments which it has been my fortune to see introduced into the discussion of a scientific question. It reminds me of the arguments that, only a few years ago, were hurled by certain members of our medical profession against the whole germ theory of disease. Notwithstanding the very positive statement that "the cell and microbe and man and dog present problems of warfare

the terms of which are parallel and alike," I cannot restrain an equally positive assertion that the comparison is chiefly remarkable for being far-fetched and having no application to the question. There is nothing "parallel and alike" either in the means of attack and resistance or in the conditions under which the two contests are maintained.

Although Dr. Curtiss thinks that the part of my theory which admits recovery to be due to the ability of the cell to resist the poison excreted by the microbe is correct, he does not appear to free his mind from the belief that the contest is, after all, a phys ical one, and that it consists in the attempt of each to "swallow" the other. That a free, wandering, or amœbid cell might easily "swallow" or take into its interior a microbe, as supposed by Metschnikoff, is freely granted; but that the terms of this proposition can be reversed, and that a microbe with a smooth, rounded body, without external organs of any kind, without an opening in its body to take in its food, without the power of locomotion in the most restricted sense, should make a physical attack upon and "swallow" a cell, requires a free use of one's imagination.

But why does Dr. Curtiss insist that the combat between the man and the dog should be a "well-ventilated" room in order to be parallel with a combat between a microbe and a cell in the interior of the body? Does not the most superficial knowledge of anatomy and physiology make it apparent that the interior of the body is not well ventilated, that a contest there, instead of being in the open air, is under liquid, and under a liquid which itself is not in contact with the air, and from which the cells of the body are continually drawing the oxygen necessary for their existence? Then, again, the oxygen requirements of the man and dog are substantially the same, and any exhaustion of this element would affect each alike. On the other hand, the oxygen requirements of microbes are very different among different species, some of them requiring an abundant supply, and as a consequence, a large proportion of these species must have require ments different from the cells of the body.

To make the comparison at all parallel and applicable, it would be necessary to assume that the room in which the man is

located is a close one, that he is able to live in an atmosphere that would immediately place the dog *hors de combat.* We must also assume that the dog, even in this partially asphyxiated condition, continues to live and exhales a poison which would gradually accumulate and overcome the man unless its production was so slow that the man would become inured to it before it had been produced in sufficient quantities to overpower him. In the former case we might suppose that the slight ventilation of the room and the smaller amount of oxygen used by the man would in time place the dog in a condition to make an attack. And here, after all our attempts to make the conditions parallel, we fail miserably, for the dog's attack must be essentially a physical one, while the microbe's attack partakes but slightly, if at all, of that character.

Of what use, then, is such a comparison for the elucidation of this nature? Surely any conclusions drawn from it must be unsafe, misleading, or diametrically opposed to the truth.

"It is evident," says the learned doctor, "that we can substitute nitrogen or bile in the place of the oxygen of this problem, and do no violence to the sense or the results." Here, again, the conclusion seems to be most hasty and without that consideration which we should expect in discussing a question of this importance. A moment's thought would have convinced our able critic that, if the multiplication of microbes is to be prevented by withdrawing an element from the liquid in which they exist, it is a necessary condition of the case that the element should be one *essential* to the growth and multiplication of the germs. As a matter of fact, neither free nitrogen nor bile is essential to such growth and multiplication. The germs of various contagious diseases can be and have been cultivated where neither nitrogen nor bile exists; but all microbes that have been carefully studied and which produce diseases that are followed by immunity, so far as I have been able to learn, require a certain amount of free oxygen.

Finally we are told: "Dr. Salmon admits the solution of the question by natural selection when he says the 'recovery is due to the ability of the cells to resist the poison.' Immunity is also due to the same fact. The oxygen theory is, therefore, only a rider to the true solution—very much such a rider, too, as Mazeppa

was, in so far as ability to guide the horse is concerned." If Dr. Curtiss will consent to lay aside his dogmatic assertions for a moment and consider the, to him, apparently dry and uninteresting facts of the problem, I may once more be able to show how far astray even a philosopher may be led by trusting to a too superficial glance of a subject. Take the disease known as fowl cholera for example. The germs of this disease multiply so rapidly outside of the body that gallons of any nutritious liquid in which they are placed would be swarming with them within thirty-six hours. Still, inoculate a susceptible chicken weighing not over a pound, and it will be four to six days before the first signs of the disease appear. In other words, although the germs have found their way into the nutritive liquids of a susceptible organism, their multiplication has been checked in a remarkable manner by the influence of the body protoplasm. If a sufficiently small quantity of the virus is used for the inoculation, the microbes are unable to multiply in the body at large, even after the period of incubation has passed, but their multiplication is confined to the locality in which they are introduced. Again, if the number of microbes introduced into the tissues is sufficiently small, say twenty-five or fifty, there is apparently no multiplication at all; the bird does not contract the disease, nor are there any signs of local irritation, although the cells have never before been subjected to the influence of the poison, and consequently have not acquired in that way any ability to resist it. Take one more fact; the germs of a contagious disease are unable to multiply in the liquids of an animal that has acquired insusceptibility, although they are placed directly within the blood or lymph channels.

These phenomena are all of the same nature, and they demonstrate, each in its way, the same fact—viz., that the protoplasm of the living body has a means of combating microbes which is not physical, and that it exerts this influence over the fluid which surrounds it to a considerable distance beyond the layer that is in actual contact with it.

These facts are evidently very intimately connected with the question of immunity, and any theory which attempts to explain immunity must not only show how the cells acquire the power to

endue and recover from the effects of the poison excreted by the microbes, but it must also explain why the multiplication of these micro-organisms ceases and becomes impossible even in the liquids of the body, and where they are not in actual contact with the cells. The tissues are, as we know, penetrated by channels some of which contain blood and others lymph, and there are everywhere spaces between the cells filled with a nutritive liquid which sustains the life of these minute constituents of the body. These chaunels and spaces, compared with the size of the microbes, are simply enormous, and, without the part of my theory relating to the oxygen supply, we can no more understand how the cells (in their walls) can prevent the multiplication of the microbes in the liquids flowing between them than we can conceive of the trees on a river's bank preventing the multiplication of the fish in its waters. There are only two conceivable explanations of the phenomenon; one is, that the cells excrete something injurious to the microbes, and the other is, that the cells withdraw something essential to the microbe's growth. The former is untenable, because the liquids which are unsuitable to the microbe's growth when within the body of the insusceptible animal become very favorable for its growth when removed from the influence of the living protoplasm. Evidently, then, they do not contain any injurious principle. Turning to the other explanation, we must admit for the same reason that whatever is abstracted by the cells must be something that can be supplied by contact with the atmosphere. Now, is there any other element than oxygen which can be supplied by the atmosphere and at the same time is so essential to the multiplication of the microbes?

From the facts I have mentioned, and from many others which I have neither the time nor the space to enumerate, it has seemed to me that when the cells are exercising their functions in a normal manner, they have such an affinity for oxygen that this gas is completely removed from the liquids in the interior of the body; and, consequently, microbes which require oxygen can multiply only when sufficient poison is introduced with them, or when they are present in sufficient number to produce enough poison to depress the activity of the cells and prevent them from so completely taking up the oxygen. This theory may be wrong,

but it certainly explains facts which have not been explained in any other way; and, if it is to be overthrown, I presume this will be accomplished by bringing forward some facts with which it cannot be reconciled and by developing a different theory which, while it explains the new facts, will not contradict the old ones.

It seems unnecessary for me to answer the charge that my theory is too narrow, for Dr. Curtiss no sooner makes it than he sets himself about whittling down even this narrow theory, and soon asserts that a part of it—the part which assumes the acquired ability of the cells to resist the poison—is all that there is to the whole question of immunity. The inconsistency of this part of his argument is too apparent to need any criticism.

Now a final word as to the utility of the studies of immunity, and I hope I shall be permitted to withdraw from the discussion. I shall not attempt to conceal my astonishment that a professor of hygiene can be found in this country who deliberately writes that "the study of physically acquired immunity from disease is interesting only as a means or end of scientific accomplishment, and is of no great practical value. . . . Why not destroy the microbe before it attacks the man, and gain the immunity by this means? . . . Immunity from disease gained by costly combat with poisonous microbes is the method of nature without intelligence. The method is not worth imitation except provisionally." That is to say, vaccination for the prevention of small-pox, the method of all others which is relied upon in every civilized country to hold this disease in check, "is of no great practical value, and is not worth imitation except provisionally." How is it, I would like to ask, that we still rely upon vaccination to prevent small-pox if it could be so easily combated by destroying the microbe before it attacked the man? Why is it that we at the present day, in the United States, are losing every year 20,000 human lives from scarlet fever, 45,000 from diphtheria, 14,000 from whooping-cough, 11,000 from measles, and 120,000 from tuberculosis, and all of these germ diseases? Is it not because the destruction of the germ before it attacks the man has been found impracticable and, in the present state of society, impossible?

The prevention of small-pox by vaccination has been a grand and wonderful success—it is the one solitary success to which the medical profession can point with pride in its long struggle with the indigenous, contagious diseases. And this we are told is not worth imitation, because it is the blind method of nature. What is there so terrible in gaining immunity through actual disease as is practiced on so large a scale in this same vaccination? And who dare predict at this time that we shall not, in a few years, have the virus of the greater part of the contagious diseases so mitigated that their effects will be as mild as those of vaccine lymph?

There is another possibility even more desirable than this. We have seen that immunity is acquired by the cells becoming accustomed to the action of a certain poison excreted by the disease germ. Suppose, as the result of such studies, the chemist of the future is able to separate this substance from the germs and supply it, as quinine is now supplied, in a condition of purity. And suppose, as is very likely, that the introduction of this substance into the tissues would confer as complete an immunity as occurs when it is produced there by the germs, would this not be a solution of the question worthy of many years' investigation?

Until we succeed better than we have in the past in destroying the germ before it attacks the man, let us not insist upon this method to the exclusion of all others, at least so long as over two hundred thousand of our population annually testify by the sacrifice of their lives to the insufficiency of this method.

EXPERIMENT L PATHOLOGY.

(Extracts from the *Revue des Sciences Medicales.*)

EXPERIMENTAL RESEARCHES ON CICATRIZATION IN BLOOD VESSELS AFTER LIGATURE.

By N. Senn.

After considering the entire history of ligation from the clinico and anatomo-pathological point of view, the author reports numerous experiments undertaken to confirm the facts already obtained to determine the mode of cicatrization of ligated blood vessels. His conclusions are as follows:

1st. All operations on blood vessels ought to be accompanied by every known antiseptic precaution.

2d. The catgut antiseptic ligature is the safest of all the means in use for the occlusion of blood vessels.

3d. The clot which is formed after the application of the ligature has no active agency in the obliteration of the blood vessel.

4th. The cicatrization is due to the proliferation of the connective tissue and of the endothelium.

5th. The period of permanent obliteration for arteries is from the fourth to the seventh day, and for veins, from the third to the fourth.

6th. Double aseptic ligation is preferable to single for large arteries, when applied near to collateral divisions, and must always be employed in a case of varicose veins.

GANGRENOUS SEPTICÆMIA.

By Mr. Chauveau.

The author, in answering objections made to a former communication, says that in his view the agent of gangrenous septicæmia is no other than the *septic vibrio* of Pasteur. This is the most perfect of the anerobic microbes, and from this results the necessity of cultivating it apart from the atmospheric air. It is an error to accuse Mr. C. of overlooking or ignoring the nature of the liquids which serve as vehicles. For if one takes from a donkey or a sheep which has died from an intra-vascular injection of gangrenous septicæmic virus, a drop of pericardial or pleural serosity, and with this inoculates a guinea pig, this animal will die of gangrenous septicæmia. But if the same serosity has first been filtered and deprived of its corpuscular parts, with its cellular and morbid elements the inoculation does not prove fatal.

It is from the portal vein of an animal dead for some time that the blood containing the septic vibrio must be taken. The lesions produced by this blood are the same with those which follow the subcutaneous inoculation of infectious serosities taken from a man who has died from rapid gangrene. And again, there is no dif-

ference between the microbes of animals and of man. The identity of the nature of the diseases cannot be denied.

The fact that the septic vibrio belongs to the anerobic microbes explains why it cannot be inoculated by sub-epidermic puncture, but by *subcutaneous;* as a sub-epidermic inoculation, by bringing them nearer to the atmospheric air, places them in the best condition to prevent their development. The same reason explains why the virus is innocuous when applied to the open surface of granulating wounds, unless there may exist some part protected from the air where the microbe may find a spot favorable to its cultivation.

It is also because of the contained oxygen in the blood that it is not virulent, *during life*, in gangrenous animals. And the same reason explains the relative inocuousness of the virus into veins and the enormous doses which are necessary to kill even small animals. And finally, the action of the air is never favorable to the activity of filtrated serosities.

In reference to the question of prophylaxy, immunity may be secured by the intra-venous injection of the veins. This is a method of which the author stands ready to prove the efficacy and certainty.

PASSAGE OF THE PATHOGENIC MICROBES FROM THE MOTHER TO THE FŒTUS.

By M. Koubassof.

The author has made examinations of the organs of the fœtus, in search of the bacterias with which the mother had been inoculated. Having hardened the tissues, he made sections, which he colored both by the simple and double method. Five observations thus made have resulted in finding seventeen fœtuses in which the liver, spleen, kidneys, heart and brain have always, and without exception, contained the bacillus of anthrax. Ordinarily the bacteridies were found outside the blood vessels, and in groups of from three to nine little rods. More rarely they were found isolated. The bacteridies have also been observed, by cultures and microscopic examinations, in the placenta, in the amniotic fluid, in the peritoneum and in other liquids of the fœtal body.

NEW COMPARATIVE EXPERIMENTS IN THE COMMUNICABILITY OF THE SCROFULA AND TUBERCULOSIS OF MAN TO THE RABBIT AND GUINEA PIG.

By M. S. Arloing.

Mr. Arloing describes several experiments in the inoculation of rabbits and guinea pigs with strumous ganglion of man. The ganglion, caseous in its center, removed the same morning from a scrofulous child, was reduced to pulp and the liquid obtained inoculated under the skin of ten rabbits and ten guinea pigs (two drops for each). Two months later, all the guinea pigs, which had died or were killed during that time, presented hypertrophied and caseous ganglions and tubercles, in the spleen and in the lungs. The ten rabbits continued free from any lesions of either visceral or ganglionic tuberculizations.

In another experiment, the inoculation was made in the peritoneum, with the liquid of a ganglion taken on the same day (two drops to each as before). The result was the same. All the guinea pigs exhibited hypertrophy of the ganglions; the rabbits were unaffected.

These results seem to justify the distinction established by clinical observation. Are there two different kinds of virus? Is scrofula the result of an attenuated and modified virus? The investigations of the author are still in progress.

REPORTS OF CASES.

AN OUTBREAK OF GLANDERS IN NEW JERSEY.

By Dr. A. Liautard, V.S.

Mr. K—— is a well-to-do farmer, who keeps three horses in his stable, his equine family consisting of a bay mare, Flora, quite valuable; a bay horse, Charley, eight years old; and an old mare, Jenny, aged twenty-eight. Last March he bought from Mr. J——, a well-known horse dealer, a pair of geldings five or six years old, which had recently been brought from Canada. These two horses were placed in the same stable with the others, where they occupied stalls side by side, their stalls being situated

between those of Charley and Jenny. At the time of purchase the off new horse (Ned) was running at the nose, but this was thought to be only the effect of a simple cold. Shortly after a fullness began to appear in the maxillary space, though otherwise he seemed perfectly well. The other horse (Bill) when bought, was said to have been very stiff and sore all over his legs.

In June, the bay horse, Charley, had a swelling of the legs, and lumps appeared at various points about the body, and in July he began to run freely at the nose.

In September, the horse Bill had a swelling of the glands of the jaw and began to run at the nose also.

It was then that Mr. Blaker, a student of veterinary medicine, was called in, and he advised that the State Board of Health be notified of the fact, which resulted in a request to Dr. A. S. Leatherman of Clinton, N. Y., to examine the entire stock, and to report. Dr. Leatherman condemned all the animals except the mare Julia, and quarantined the place.

The dealer then asked for an inspection by an expert, and Dr. Liautard was sent for. A confirmation of the diagnosis made by the State Inspector was the result of his visit. The animals were found in the following condition:

The horse *Ned* had the characteristic discharge, ulcers and glands of chronic glanders.

Bill suffered from an enlargement of the maxillary glands, with slatey coloration of the mucous membrane of the nose, and farcinous buds round the neck.

Jenny had fine ulcers under the left false nostrils, and a large chancre on the right side of the septum, the mucous membrane of which was infiltrated and glassy in appearance.

Charley seemed to be the most affected. The glands were of enormous size; the discharge of the nostrils was very abundant and characteristic, and both sides of the septum were covered with chancres of chronic glanders.

Flora, so far, showed no symptoms of the disease. She seemed to be perfectly healthy and was left by herself in quarantine, while the other four animals were condemned to be destroyed.

During the month of September, Dr. A. S. Leatherman condemned in the same vicinity two other horses, situated ten miles apart, both of which were brought from Canada by the same dealer, and belonged to the same drove with the horses Ned and Bill. They had all traveled in the same car.

There is no difficulty in tracing the infection of the horses of Mr. K——, but for Ned and Bill and the two others, destroyed by Dr. Leatherman, the question may be asked, whether they did not become infected through the bad condition of the truck in which they were imported?

IRREGULAR WEARING IN THE MOLARS OF A HORSE.—NECROSIS OF THE PALATE BONE.

Description of a Specimen presented by B. McInness, Jr., V.S., to the Museum of the American Veterinary College. By J. Schriebler, D.V.S., Curator of the Museum.

The preparation exhibited was the head of an old horse which had been the property of an aged South Carolina negro. When death occurred the horse had become so emaciated that his appearance was almost like that of an animal which had died of starvation. The condition of the teeth to a great extent explained this fact, and showed the difficulty the animal must have experienced in masticating his fodder. The molars of the left side on both jaws were about normal, but those of the right presented a very peculiar aspect, due to an irregularity in the wearing process, which, instead of taking place flatwise, had affected the teeth in their length. Those of the upper jaw were worn from above downwards, and from the inner side outwards, in such a manner that while the outer surface of the teeth measures over two inches, the inner surfaces measures scarcely half an inch, this being about the normal length of the teeth. This irregularity is perfectly smooth on the inner surface for the first four molars, but irregular on the fifth, which is angular. These teeth and the last have undergone less wearing. On the same jaw the palate bone was already undergoing necrosis, and showed in the center a perforated appearance and a depression towards the back. This condition of the palate bone is due to the action of the molars of the lower jaw.

In that region the left molars are also healthy, but on the right side the first, second and third have undergone a process of wearing corresponding to that of the upper jaw, but in an inverse direction. The third one, which has a length of nearly two and a half inches, has produced the depression in the palate. The fourth, fifth and sixth molars are missing in the specimen. It is probable that the fourth was lost in preparing the head, but there is no doubt that the fifth and sixth were lost during life, as can be seen by the wearing out of the outside surface of the alveolar cavities, and their almost complete disappearance. This is the second case of this kind that has come under our observation. The first, however, was more complete, as the irregularity of the teeth existed on both sides and on both jaws. When the animal died, all the teeth were not only found on both sides of both jaws, but the animal presented also an abnomality in the number of teeth, having 28 instead of 24 molars. This irregular condition of the teeth furnishes a ready explanation of the difficulty of mastication, and can scarcely be relieved, except by bestowing a degree of attention to the organs which it is not yet usual to bestow on animals.

EXTRACTS FROM FOREIGN JOURNALS.

SLOUGHING OF THE PHALANGES OF A MULE FOLLOWING A PUNCTURED WOUND RECEIVED IN SHOEING.

By Mr. Barrier.

A mule was carelessly pricked while being shod, and the nail was pulled off, and a few drops of oil of turpentine poured into the wound. The next day the animal was very lame, but he received no special attention until the seventh day, when the pus was found to have made its way between the hair and hoof. Directions were then given to have the shoe removed and the foot dressed.

The owner, who cared only to be paid for the damages produced by the blacksmith, neglected the order he had received, and the poor animal was left alone to his sufferings. Twelve days later the leg had become enormously swollen to the elbow; the hoof had altogether sloughed away, and the lower part of the

foot formed a large, ugly looking wound, covered with maggots and with a very repulsive odor; still, large healthy granulations covered the stump of the leg. An order was given to the owner to have the poor brute destroyed; an order which he again refused to carry out. Six weeks afterwards the animal was seen in apparently perfect health; the three phalanges were gone, but the stump remained almost in its entirety, and healed. The animal walked slowly without evincing much pain, but was lame on three legs when made to trot. He was at length destroyed. Two months had nearly elapsed from the day on which he was pricked to that on which he was killed.—*Recueil de Medecine Veterinaire.*

ENCEPHALOID CARCINOMA.—DEATH.

By Mr. Trasbot.

This horse had an encephaloid carcinoma of one testicle, for which he had been operated upon. The operation had been successful, and everything in his condition seemed to indicate a rapid recovery. Instead of this, however, a febrile condition seemed to show itself on the following day, and general symptoms of an internal affection became manifest. The suspicion of general carcinomatous infection was entertained, and in twenty-four hours, confirmed beyond the reach of a doubt. A firm, indolent, diffuse and incompletely defined tumor, round in shape, soon made its appearance in the right flank. Rectal exploration gave the sensation in the sub-lumbar region of an enormous mass, bosselated, extending forward beyond the reach of the hand, and backwards beyond the bifurcation of the aorta. During the following days the symptoms became aggravated, and after four days of suffering the animal was destroyed—fourteen days after the first operation. At the autopsy, the wound of castration, though partly healed, had, nevertheless, a bad appearance. The pleural cavity was about normal. Between the layers of the anterior mediastinum was a group of tumors, of various sizes, weighing over five pounds (2 kilogrammes, 600 grammes). In the abdomen there was an enormous neoplasm of the same nature and aspect, and weighing twenty-six pounds (13 kilogrammes). These two masses

were easily separated into smaller ones. Some of them are of older origin; were hard, greyish in color, and on section, showed a white, milky, abundant fluid, while others were more friable, milky, of a uniform rosy color, with here and there a hemorrhagic centre and are evidently of new formation.

Evidently, the first operation had stimulated a more rapid development in all these previously indolent, internal tumors.—*Recueil de Medecine Veterinaire.*

BILIARY CALCULUS.—RUPTURE OF THE GALL BLADDER.

By M. Cagny.

An ox was taken ill, and treated for indigestion of the third stomach, presenting no remarkable symptoms, and dying in a few hours. The post-mortem revealed lesions of the most acute attack of peritonitis, with an effusion of bloody serosity, mixed with bile. The peritoneum had assumed the color of bile. The gall bladder was torn through its serous and muscular coats, the mucus membrane being yet intact. In the narrow portion of the sac, however, there was a laceration, three inches in length, through which the bile had escaped. The calculus was found at the extremity of the ductus communis choledochus, near the intestinal opening. It was roughened at one extremity, probably by the contact of the food. In weight it was about two grammes and nearly one and a half inches in length.—*Recueil de Medecine Veterinaire.*

HERNIA OF CASTRATION.—WOUND OF THE INTESTINE, WITH LOSS OF SUBSTANCE.—RECOVERY.

By M. Collins.

The patient was a newly purchased three-year-old colt, which had been castrated a few days previously to his change of ownership. The day following the purchase his owner discovered that a mass of fœcal matter had escaped through the wound of castration. When seen by the author he seemed to manifest but little uneasiness, but showed no evidence of pain. He was gay; his appetite was good and his pulse and respiration normal. He would occasionally exhibit some movements more or less violent, and a certain quantity of alimentary mass was still escaping through the

wound in the scrotum. There was perforation of the small intestine, and intestinal fistula. Finding that no thorough examination could be made without throwing the animal, and fearing the consequences of such manipulation, he was left alone, with directions to keep him quiet, and to feed him lightly on soft food. The prognosis however, was of course, very serious. No change in the condition of the animal seemed to take place, until two weeks later, when the fistula was found to be entirely dry, and the wound of the scrotum almost entirely closed. The animal had been castrated by the process of covered testicles.—*Journal de Zootechnie.*

INCOMPLETE FRACTURE OF THE TIBIA.

By M. Lecot.

A seven-year-old mare received from another horse a violent kick while being turned out. From that moment she refused to move, and when compelled to do so, betrayed great lameness on the right hind leg. The next day the lameness was still well marked. The foot did not rest on the ground, and she was evidently troubled with a sort of lancinating pains, with symptoms of a high febrile condition When compelled to move, she walked on three legs. On examining the leg, a small wound and depilation were found a little below and forward of the region of the patella. The inner side of the tibial region was the seat of swelling, and painful on pressure. No other symptoms appeared. It was evidently a split, or incomplete fracture of the tibia. The treatment consisted in complete rest and easily digestible food, blistering over the injured region, and antipyretic medicines. Three weeks afterwards the animal rested her foot on the ground, and after six weeks carried weight on the leg without difficulty.—*Annales de Brussells.*

CASE OF POLYURIA FOLLOWING TRAUMATISM OF THE LIVER.

By Mr. Benjamin.

A mare recovering from an attack of pneumomia, was kicked in the left flank by another horse. The next day she was very dull, and on the third day following, polyuria showed themselves.

These symptoms continued to increase until death, which took place two months after. At the post-morten the lungs were found healthy, but abundant lesions appeared in the abdomen. The liver had its normal color and consistency in the right and middle lobes, but the left lobe had the hue of a dead leaf, and from its middle to its lower border was easily torn, and looked as it would have done if cooked. Towards the most dependent part of the border, it was considerably thickened and presented a tumor of the size of two fists, adherent to the posterior face of the diaphragm and to the surrounding peritoneum. This tumor, when opened, proved to be an abscess lined with a pyogenic membrane, and containing white creamy pus. The kidneys were pale, the pelvis and tubuli showing here and there a desquamation of the epitheliums. The bladder was somewhat injected, and the small quantity of urine it contained was cloudy and thick, without reaction with nitric acid, and without a trace of sugar. Death was evidently due to the polyuria and the suppurative hepatitis, which was undoubtedly, of traumatic origin.—*Journal des Societés Scientifique.*

INVITATION

TO VETERINARIANS TO THE CONVENTION OF CATTLE GROWERS OF THE UNITED STATES.

OFFICE OF TERRITORIAL VETERINARIAN,
CHEYENNE, WYO., Sept. 30, 1885.

To State Veterinarians and Members of Sanitary Boards.

GENTLEMEN:—The National Convention of the Cattle Growers of the United States will be held in Chicago, Ill., Nov. 17th, 18th and 19th, 1885, and the most important subject for consideration will be "Contagious Diseases of Domestic Animals," and the methods to be employed for their eradication and prevention.

This convention will be composed of men of ability, character and influence, and the expressions of these gentlemen will have

great weight in shaping future legislation in this matter; therefore, I believe that there should be a meeting of the State Veterinarians and Sanitary Boards of the different States, who are conversant with the pathology of the various plagues (hog cholera, Texas fever, contagious pleuro-pneumonia and glanders) which at present afflict the domestic animals in many parts of the United States, and after a full discussion of the vagaries of contagion and the means by which these plagues are spread, make a report to the convention, demonstrating to them the nature and peculiar characteristics of these plagues, the manner of their spread, and all the means necessary to eradicate or control them.

Owing to the conflicting sanitary regulations of the different States, the cattle traffic during the past year suffered much embarrassment, and entailed on shippers heavy losses; hence the necessity for an intelligent discussion of this matter by the State Veterinarians and Sanitary Boards, which may serve to remove many of the obstructions to commerce, by the adoption of a uniform sanitary code.

Believing that the best interests of our profession will be served, and that the people engaged in the transportation of stock will be benefitted by such meeting, I most earnestly urge you to attend at Grand Pacific Hotel, Chicago, Ill., November 16th and 17th, 1885.

JAS. D. HOPKINS, *Territorial Veterinarian.*

VETERINARIANS IN OFFICIAL POSITIONS.

LIST OF STATE AND TERRITORIAL VETERINARIANS.

	GRADUATE OF
V. T. Atkinson—Wisconsin	Ontario Veterinary College.
J. Gerth, Jr—Nebraska	American Veterinary College.
J. S. Butler—Ohio	Ontario Veterinary College.
N. H. Paaren—Illinois	
J. D. Hopkins—Wyoming Territory	American Veterinary College.
G. C. Faville—Colorado	Iowa Agricultural College.
A. A. Holcombe—Kansas	American Veterinary College.
T. Bridge—Pennsylvania	
F. E. Rice—Connecticut	Royal College, England.
James Law—New York	Royal College, England.
Robert Ward—Maryland	Royal College, England.
Paul Paquin—Missouri	Montreal Veterinary College.
M. Stalker—Iowa	Ontario Veterinary College.
G. Keefer—Montana	American Veterinary College.
J. F. Winchester—Massachusetts	American Veterinary College.

VETERINARIANS EMPLOYED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. (BUREAU OF ANIMAL INDUSTRY).

	GRADUATE OF
D. E. Salmon	Cornell University.
F. L. Kilborne	Cornell University.
A. M. Farrington	Cornell University.
W. B. E. Miller	American Veterinary College.
H. W. Rowland	Columbia Veterinary College.
T. J. Herr	American Veterinary College.
J. W. Hawk	Columbia Veterinary College.
C. K. Dyer	Place of graduation not known.
W. H. Rose	American Veterinary College.
A. H. Rose	American Veterinary College.
Wm. H. Wray	American Veterinary College.
W. B. Rowland	American Veterinary College.
J. R. McLaughlin	Montreal Veterinary College.
M. R. Trumbower	Late student at the American Veterinary College.
L. M. McLean	Royal College V. S., England.
C. B. Michener	American Veterinary College.
J. Gerth, Jr.	American Veterinary College.

REVIEW.

VETERINARY PHARMACOLOGY AND THERAPEUTICS. BY J. B. GRESSWELL, M.R.C.V.S.

Under this title the author offers his work to the veterinary profession to fill what he calls a great need of an "Extra Veterinary Pharmacology and Therapeutics." It consists of a little over 200 pages, 179 of which are devoted to brief notices in therapeutics, including quite a large number of good prescriptions. The remaining portion contains an index of diseases, with the indication of the drugs required in their treatment. Though perhaps somewhat too concisely constructed, this little work must prove itself frequently useful for purposes of reference, to both student and practitioner.

HORSE'S TEETH. BY W. H. CLARKE. THIRD EDITION, REVISED.

The success achieved by this excellent compilation is sufficient evidence of its quality. The second edition, which has had an unusually rapid sale, has been revised and improved, and "Horse's Teeth" is now presented as one of the most complete among the works on this subject. Mr. Clarke, although not a veterinarian, has collected in this work a large number of cases of great inter-

est to practitioners, and these, with the various other frequent chapters have made the book a very worthy acquisition to veterinary literature.

Both of these books are sold by W. R. Jenkins, 850 Sixth Av., N. Y.

CORRESPONDENCE.

CLEVELAND, O., Oct. 12, 1885.

Prof. A. Liautard, V.S., New York City:

DEAR SIR—At a meeting of the Ohio State Veterinary Medical Association resolutions were passed instructing us to write the different veterinary colleges, with a view of having their views on the three following questions:

1st. That the applicant for admission be required to pass a matriculatory examination in reading, spelling, writing, grammar, arithmetic and possess a good common school education.

2d. That the term of study shall be increased from two terms, as it now is, to three.

3d. That such student shall be required to devote the intervening summer months under some qualified veterinary surgeon.

I desire to have your views on the above subject in full, in order that I may present a full report to our Association at its next regular meeting, which takes place second Tuesday in January, 1886, at Mt. Vernon, Ohio, at which time we will pleased to have you with us.

Yours truly,

W. C. FAIR, *Cor. Secretary.*

TO VETERINARY SURGEONS.

The subscriber desires situation with a good veterinary surgeon, with a view to studying the veterinary art—wages no object—with a thoroughly practical surgeon.

GEORGE H. GOULD,
DeKalb, DeKalb County, Ills.

ARMY INTELLIGENCE.

By the resignation of Dr. Wogt, lately of the 8th Regiment of Cavalry, the position of senior and junior veterinary surgeon to that regiment is vacant. The pay of the senior is $100 and of the junior $75 per month.

SOCIETY MEETINGS.

MASSACHUSETTS VETERINARY ASSOCIATION.

The regular monthly meeting of the Massachusetts Veterinary Association was held at 19 Boylston Place, Boston, Wednesday evening, September 2, 1885.

Dr. F. S. Billings presided, and there were present Drs. Blackwood, Bryden, Bunker, Byrne, Harrison, Howard, Osgood, Peters, Skally, Winchester, Winslow; also as visitors, A. Marshall, M.R.C.V.S., of Glasgow; Mr. Webber and Mr. Allen of Boston.

After the minutes of the previous meeting had been read and accepted, Dr. Bunker moved that all further business be suspended until after the reading and discussion of the paper. Motion carried.

Dr. Austin Peters then read a paper, having for its title "An American Veterinarian's Impressions of the Profession in England." The essayist, a graduate of the American Veterinary College, supplemented his course of study at this institution with a year's study at the Royal College, Loudon, having conferred upon him the degree of Member of the Royal College of Veterinary Surgeons. Later he visited the different veterinary institutions of England, and also some of those in France and Germany.

His descriptions of the different institutions, their buildings, grounds, museums, etc., his interviews with their professors, and his experiments both with students and general practitioners were very intertaining.

None the less interesting were his criticisms of the course of study pursued at some of the schools, of their pupilage system, the granting of Fellowship degrees, etc., etc., all together forming a novel and interesting paper. At its conclusion a unanimous vote of thanks was tendered the essayist.

A quorum of the Executive Committee not being present, Dr. Osgood was appointed a member *pro tem.*

On motion of Dr. Winchester it was voted that the Chair appoint three members who shall constitute a delegation to represent this Association at the annual meeting of the United States Veterinary Medical Association, to be held in New York City, September 15th. The Chair appointed as that committee, Drs. Bunker, Osgood and Howard.

Dr. Bryden was appointed essayist for the next meeting, and announced as his subject, "The Horse's Foot."

Dr. Bunker moved that a committee of three be appointed by the Chair to revise the constitution. Motion carried, and the Chair appointed as that committee, Drs. Bunker, Skally and Peters.

Dr. Bryden proposed for membership Alexander Marshall, M.R.C.V.S. The Executive Committee reported favorably as to his credentials.

Dr. Bryden moved that the Secretary of the Association be authorized to subscribe for the standard English veterinary journals. Motion carried.

No other business coming before the meeting it was adjourned.

The October meeting was held at the same place, Wednesday evening, October 7th.

In the absence of President and Vice-President, Dr. Osgood of Springfield was appointed chairman *pro tem.*, and there were present, Drs. Bryden, Bunker Howard, Osgood, Peters, Penniman, Simmons, Marshall, Skally and Winchester; also as invited guests, Dr. J. H. Stickney and Mr. Webber, of Boston.

Minutes of previous meeting were read and accepted.

The Executive Committee reported approval of credentials of Geo. Penniman, D.V.S., of Worcester, and he, together with Alexander Marshall, M.R.C.V.S., of Brookline, were unanimously elected to membership.

The committee appointed to revise the constitution reported progress, with the probability of an extended report at the November meeting.

The delegation to the meeting of the United States Veterinary Medical Association reported as having taken a part in its proceedings, which were of considerable interest, and also that they inspected the operating table of Messrs. Hodgson and McGee, by invitation of the Association in session.

This table and method of operating it were described at length by Drs. Bunker and Howard.

A communication from F. S. Thomas, A.M.V.S., of Hanson, was read, saying that he had never been able to attend any of the meetings, and offering his resignation as a member. By vote it was accepted.

The resignation of R. H. Harrison, D.V.S., was presented, and accepted by a unanimous vote.

Dr. Bryden then read a paper on "The Horse's Foot." The paper, and the discussion which followed its reading were extremely interesting, the point of heredity, as a modifying influence in the development of the animal, receiving particular attention in the discussion. At its conclusion a unanimous vote of thanks was tendered the essayist.

The discussion of the subject of Dr. Bryden's paper having gradually led up to that of spavin and exostoses in general, Dr. A. Marshall was asked to favor the next meeting with a paper on that subject.

By vote of the meeting, the visitors present were invited to attend subsequent meetings.

The secretary reported that Dr. A. Liautard, editor of the AMERICAN VETERINARY REVIEW, had kindly placed the Association on the free list of subscribers to his journal. By a unanimous vote the Secretary was ordered to tender Dr. Liautard the thanks of the Association.

No other business coming before the meeting, it was adjourned.

L. H. HOWARD, *Secretary.*

THE KEYSTONE VETERINARY MEDICAL ASSOCIATION.

The October meeting of the Keystone Veterinary Medical Association assembled in response to directions sent out by the Secretary, at 1526 Race street, Philadelphia, October 15th, at 8 p.m. The regular night of meeting having been changed at the last meeting, but no notice of such change being given the Secretary, the call was given under the old by-law.

Members present, Drs. Rodgers, Zuill, Hoskins, Glass, Weber and Goentner.

Minutes were read by Dr. Glass, secretary *pro tem.* of last meeting and approved.

Dr. Zuill, as Committee of Publication, reported that he had forwarded Dr. Rodgers' essay on "Milk" to Mr. Jenkins of New York, who did not think it advisable to publish it in book form, but would do so if the Society would pay the compositor, which would cost about sixty-four dollars. He, Jenkins, advised the publishing of the manuscript in the REVIEW or *Comparative Journal*, and preserving the electrotypes. Committee continued, to report at next meeting.

Committee on Pharmacopia had no report to make.

Treasurer's report was laid over until next meeting.

Dr. Zuill moved that the Secretary inform all delinquent members of their arrearages, with notice that they would be expelled for non-payment of dues if they did not respond.

Dr. Schaufler, the essayist, being absent, no paper was read.

This being the annual meeting, the election of officers for the ensuing year followed.

Dr. Rodgers nominated Dr. Glass for President. Dr. Glass withdrew, and with an appropriate speech moved that the present incumbent, Dr. Hoskins, be continued; Dr. Zuill seconded the nomination. Dr. Rodgers moved that the President be elected by showing the right hand. Dr. Zuill took the chair to put the question. Dr. Hoskins was unanimously elected President for the coming year. Dr. Rodgers made a flattering speech, eulogizing Dr. Hoskins, giving him the credit of starting and perpetuating the Keystone Association by his untiring efforts to make each meeting an object to those present and the profession. Dr. Hoskins in reply, thanked the Association for the honor they had done him by unanimously electing him chief officer for a second term. He assured each member that his heart was with the success of the Association. That three years had passed since the Keystone Association was organized with but six members. That now it stood highest in the standard of excellence in this country, it being the only veterinary society that admitted none but graduates of schools of an unquestionable character. That it would become a necessity for every veterinarian claiming public respect and confidence to be a member of some society, and the Keystone was the society to which every one would crave admisson. He also referred to a number of practitioners for whom all had respect, and favored their admission to the Association as associate members with all the privileges except election of officers and members.

Dr. Rodgers was elected Vice-President; Dr. Goentner, Secretary and Treasurer; five Directors, composed of Drs. Miller, Glass, Rodgers, Zuill and Huidekoper.

Dr. Hoskins agreed to see a number of practitioners and see if they would become associate members.

Dr. Glass approved of the admission of associate members, but claimed that they should be elected by ballot and only admitted upon receiving a unanimous vote.

Dr. Zuill thought the Association should hold three or four meetings during the year, to which the students at the University of Pennsylvania could be admitted, with their preceptors.

Dr. Glass volunteered to read a paper at the next meeting, subject, "Distemper in Dogs."

Dr. Weber of Lancaster, was appointed to report a case "in detail," occurring in his practice during the month.

Adjourded to meet the first Saturday night in November.

CHAS. T. GOENTNER, *Secretary.*

OHIO STATE VETERINARY MEDICAL ASSOCIATION.

A meeting of the Ohio State Veterinary Medical Association was held at Columbus, Ohio, Sept. 2d and 3d, in the Tindal rooms, City Hall Building.

Dr. J. V. Newton, Toledo, O., President of the Association, called the meeting to order, in a very appropriate speech, briefly reviewing the history of the Association from its organization, and related the good work that had been done by its members and asked for the different members to kindly co-operate with Dr. Butler, State Veterinarian, as by so doing he believed that great good could be accomplished, and much credit must reflect on the professsion throughout the State of Ohio, especially from owners of valuable animals, both horses and cattle. He also remarked that his attention had been called "by several members of the Association" to the fact of lack of qualification in some of the graduates of veterinary colleges, and he believed that all the veterinary colleges should adopt a thorough matriculatory examination, and only admit those who possessed a good common school education. Another matter which should occupy the attention of this Association, that is unprofessional conduct of certain professors in veterinary colleges, he hoped would be fully discussed when the proper time came.

The regular business of the Association was then proceeded with. About thirty members answered to the roll call from different parts of the State.

The minutes of the previous meeting were read and approved.

The following names were proposed for membership: Thomas Kerr, V.S., graduate of Ontario Veterinary College; J. P. Wilson, D.V.S., graduate of American Veterinary College; C. G. Burger, V.S., graduate of Ontario Veterinary College; E. Barnett, V.S., graduate of Ontario Veterinary College; O. D. Franks, V.S., graduate of Ontario Veterinary College.

All the above gentlemen being duly vouched for as possessing good moral characters by members present, and the ballot being passed and found clear, the President declared them duly elected members. They were then introduced, and each responded in fitting terms.

Under the head of Communications and Correspondence, a letter of regret was read from Prof. Smith, of the Ontario Veterinary College, wherein he con-

veyed his sincere thanks for the kind invitation he received, and hoped at some future time to be present with us, but other pressing business eugagements must prevent him from attending our September meeting.

Under the head of Essays and Papers, Dr. A. J. Smith, of Pleasant Hill, recited a very interesting history of several well marked cases of glanders and farcy, all going to show how little outward appearance horses may show, and still the glander virus may be lurking and remain latent for a time in the system without the animal even experiencing much change, unless being subjected to exposure and exhaustion. The doctor spoke at length on the diagnosis of the disease and how difficult it was to arrive at anything like a correct conclusion, when many of the symptoms which should be prominent were wanting; another remarkable feature is how apparently healthy an animal may seem and still be diseased. The doctor also gave a very interesting history of the post mortem appearances of the lymphatics, lungs, liver, kidneys, sceptum nasi and submaxilary glands, all going to show how one particular organ may suffer more than another.

Dr. J. S. Butler, Piqua (State Veterinarian), related his experience of late in looking at glandered horses, near Marblehead, O., and Sandusky City, where he found several well marked cases and ordered them destroyed.

Dr. W. C. Fair, Cleveland, related a peculiar case of glanders in a pony which was sent to Cleveland from New York City, and had evidently been diseased before being shipped. He also spoke of having destroyed three horses out of twelve which were suffering from chronic glanders, and none of the others were affected afterwards; and in another stable where 80 horses were kept, he destroyed six, and none of the others had contracted the disease, all going to show how unsusceptible many horses are to become diseased, and, in his opinion, many horses were destroyed supposed to be glandered that were not.

Dr. D. P. Youkerman, Cleveland, spoke of having met with two cases within the past few months; both cases were imported from Pennsylvania

Dr. T. B. Hillock, Columbus, had met with one case some months ago, and believed the city free from the disease at present.

Dr. R. W. Whitehead, Youngstown, met with a case some time ago, and ordered his destruction; came from Pittsburg, Pa.

Dr. J. C. Meyer, Jr., Cincinnati, had met with several cases within the past year, but thought their city free from glanders at present.

President Newton then called for other papers.

Dr. W. C. Fair said he had hurredly prepared a paper to read at this meeting, but was somewhat ashamed to give its title, it being a disease that not only professionals claimed to fully understand and treat successfully, but every man who owned a horse knew of a sure cure; and in no disease are the powers of nature and the scope of medicine so clearly exemplified, simply because eight-tenths of all cases would recover if left to themselves, hence the reason of claiming such curative properties to worthless prescriptions; but, in his opinion, no acute disease affecting the horse proved fatal as often as acute indigestion and colic; and, in his opinion, the profession was not in possession of a sure and certain remedy to cure all cases of colic. The paper was lengthy, first treating on the pathology of the disease; second, cause; third, symptoms; fourth, treatment. The doctor said

that the majority of cases of colic were treated without a proper knowledge of the causes, as many different causes give rise to uneasiness and abdominal pain, and when the animal was rolling and tumbling a correct diagnosis could not always be made; but he believed the sheet anchor to success in the treatment of flatulent colic was to puncture the large intestines by means of a long and small trocar and canula, and not delay the operation too long, as he believed was often the case. He had practiced the operation for the past ten years with good success, and would not hesitate, if called to see the most valuable horse that lives, to operate, if enemas failed to bring a free discharge of gas. The most baffling cases are those where the fermentation is mostly all going on in the stomach and when all medicinal agents seem to have no impression in neutralizing the gases. In many cases of colic administers a cathartic and believes it produces good results.

Nearly every member present took part in the discussion, and many offered valuable prescriptions.

Drs. Smith and Whitehead gave some valuable information regarding the use of sulphate of eserine, both having great faith in its curative properties in obstina e cases of flatulent colic.

Dr. J. C. Meyer, Jr. spoke of using the trocar per rectum successfully in some cases, and believed it worthy of a fair trial. Colic was often due to atmospheric causes.

The evening session then closed, to meet at 7:45 o'clock, a.m., Sept. 3.

The meeting was called to order by the President, who stated under the head of unfinished business, the question of appointing delegates to the National Veterinary Medical Association. After much discussion, the following delegates were elected to attend the National Veterinary Medical Association in Washington, D. C., in November: Dr. F. Bent Cotton, Mt. Vernon; Dr. D. P. Youkerman, Cleveland; Dr. J. S. Butler, Piqua (State Veterinarian).

Two delegates were also appointed to attend the United States Veterinary Medical Association, in New York City, Sept. 15.—Dr. J. C. Meyer, Jr., Cincinnati, Dr. W.C. Fair, Cleveland. Both sets of delegates go instructed to endeavor to bring about an amalgamation of the two associations, the National and United States.

After considerable discussion about the different veterinary colleges, and the loose manner in which many of them admit students without even knowing whether they have a common school education or not, the simple requirement being age, it was decided and resolutions were passed instructing Dr. Fair, Corresponding Secretary, to write to each of the Veterinary Colleges in the United States and Canada, expressing a sense of this meeting and urging upon them the necessity of a more thorough course of study, and asking them to lengthen the term to three sessions instead of two and compel the student to devote the intervening months to study with a qualified practitioner.

The subject of unprofessional conduct was fully discussed, several members present taking the ground that nothing had a greater tendency to prostitute and disgrace the profession than professors of veterinary colleges advertising specifics, while others were giving long lists of references and seeking newspaper puffs, publicly advertising both doctor and patient. Charges should surely be preferred against members of the profession who are guilty of such conduct; and until

graduates of colleges cease to solicit patronage in the above ways, they cannot hope for the profession to be looked upon with much respect. It was hinted that at the next annual meeting a public exposure of all guilty members would be made, and charges preferred, unless some change took place in the near future.

Dr. J. S. Butler (State Veterinarian) was called on to give an account of the work he had performed since receiving his commission. The doctor gave a very excellent history of his researches in different parts of the State, and a full report of the cases of splenic apoplexy in cattle near Toledo, and several cases of glanders near Sandusky City and Marblehead; also that he was proud to announce that to the best of his knowledge pleuro-pneumonia contagiosa had been effectually stamped out in Ohio.

Dr. J. S. Townsend, being present, was called on and spoke on Veterinary Education. He expressed himself as being much pleased to see such a deep interest taken in the profession, and the growing desire of those present to see that only competent men were allowed to pass the examinations of veterinary colleges and to go out and practice the profession. He also remarked that there were prospects of the State Board of Agriculture establishing a veterinary college in connection with the State University.

Resolutions were passed instructing each member to report at once to Dr. Fair, Corresponding Secretary, any peculiar and interesting case or outbreak of disease, the same to be published in the AMERICAN VETERINARY REVIEW, whenever the profession may be benefitted by so doing.

The Association meets at Mt. Vernon, O., the second Tuesday of January, 1886, at which time the election of officers will take place. Papers will be read and discussed, reports will be had from the different principals of veterinary colleges, giving their views on the requirements for admission and the propriety of lengthening the course of study. The meeting will be interesting, therefore a full attendance of all qualified veterinary surgeons is earnestly requested.

EXCHANGES, ETC. RECEIVED.

In addition to our usual exchanges of weekly and monthly periodicals, we have received the following:

CATALOGUES AND PAPERS.—The U. S. Medical Investigator, The Clinical Notes, Local Treatment of Disease, by C. L. Mitchell, M.D.; Monographia Syphilitica, by Geo. W. McDade, M.D.; Physical Examination of Weak Chests and Differential Diagnosis of the Several Forms of Early Phthisis, by Dr. E. D. Hudson, Jr.; Some of the Diagnostic Relations of the Indigestions, by Dr. E. D. Hudson, Jr.; Post Mortem Examinations, by Virchow; Physicians' Visiting List, 1886; Rapport sur la Fievre Aphteuse; Rapport sur la Fievre Charbonneuse; Rapport sur la Dourine, par M. Laquerriere; The Microscope—Monthly Journal, by Charles H. Stowell, M.D., F.R.M.S.; Rapport sur le Rouget.

Prof. HENRI BOULEY.

BORN IN 1814.

Inspecteur-General des Ecoles Veterinaires de France; President de l'Academie des Sciences, (Paris).

At this late hour, and as we are going to press, it becomes our sad duty to announce to our friends the loss sustained by the Veterinary Profession of the world in the death of this eminent man, to whom Veterinarians of France owe so much as a leader, a teacher, a friend, and in many instances almost a father.